

WHAT IS CLAIMED IS:

1. A process for manufacturing a composite sheet capable of elastic stretch and contract in one direction by continuously
5 feeding, in the one direction, a first web capable of elastic stretch and contraction and having a top surface and a bottom surface, continuously feeding a second web capable of inelastic extension and composed of thermoplastic fibers on at least one surface of the first web and joining the first and second webs
10 in an intermittent manner along the one direction;

said manufacturing process including the following steps:

(a) a first extension step wherein said first web is continuously fed in the one direction and extended in the one
15 direction within the range that permits elastic stretch and contraction of the first web;

(b) a step wherein said second web is superimposed on at least one surface of the extended first web and joined to the first web in an intermittent manner along the one direction to
20 provide a composite web;

(c) a second extension step wherein the composite web is extended in the one direction within the range that permits elastic stretch and contraction of the first web; and

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(d) a step wherein, after the second extension step, the extended composite web is allowed to retract by an elastic contraction force of the first web to thereby obtain said composite sheet.

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2. The process of Claim 1, wherein said thermoplastic synthetic fibers in the second web are engaged with each other by mechanical entanglement or fusion bond and, in the step (c), the fibers are partly freed from the engagement to the extent
10 that they are individualized.

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3. The process of Claim 1, wherein the second web is joined to top and bottom surfaces of the first web, and the second webs respectively joined to the top and bottom surfaces of the first
15 web are distinguished from each other in any of properties, including a basis weight and density of the second web, a type of the thermoplastic synthetic resin, and a diameter and length of the fibers.

20 4. The process of Claims 1, wherein said first web is either in the form of an elastically stretchable non-woven or woven fabric composed of thermoplastic synthetic fibers or in the form of an elastically stretchable film made of a thermoplastic

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synthetic resin.

5. The process of Claim 1, wherein said thermoplastic synthetic fibers in the second web are continuous, long or short fibers.

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